
Effects of GO 4 IT . . . NOW! Strategy Instruction on the Written IEP Goal Articulation and Paragraph-Writing Skills of Middle School Students With Disabilities

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ABSTRACT

The current standards-based reform movement, which emphasizes teaching academic skills to all students, holds promise for students with disabilities. However, there is concern that this movement's sole focus on academic skills will leave less room for teaching self-determination skills. One possible solution is to identify interventions that can teach self-determination and academic skills simultaneously. This study investigated the effects of such an intervention (i.e., GO 4 IT . . . NOW!) with 12 middle school students with high-incidence disabilities. The findings showed a functional relationship between the instruction and (a) students' abilities to articulate Individualized Education Program (IEP) goals in writing and (b) paragraph-writing skills in students' IEP goal paragraphs.

ALTHOUGH RECENT DATA HAVE DOCUMENTED that postschool outcomes for individuals with disabilities are improving (Wagner, 2005), these outcomes remain at unacceptable levels. For example, nearly 20% of youth with learning disabilities (LD) are not engaged in work or education shortly after leaving high school. In an effort to improve outcomes, researchers have sought to identify predictors of positive postschool outcomes. Predictors of postschool success include high levels of self-determination (Wehmeyer & Palmer, 2003) and strong academic skills (Benz, Yovanoff, & Doren, 1997). For example, Raskind, Goldberg, Higgins, and Herman (1999) identified the following attributes as those

that distinguished successful adults from unsuccessful adults: self-awareness, perseverance, emotional stability, goal setting, and use of support systems. Many of these attributes overlap with the component skills of self-determination, including self-awareness, decision making, goal setting and attainment, and self-advocacy (Algozzine, Browder, Karvonen, Test, & Wood, 2001; Wehmeyer, Sands, Doll, & Palmer, 1997). Therefore, it is critical that school programs address self-determination skills as well as academics.

Given that self-determination encompasses a broad range of skills, researchers have suggested interventions that teach several self-determination skills simultaneously. One such approach to teaching multiple self-determination skills is to involve students in the IEP process (Test et al., 2004). Wehmeyer and Ward (1995) suggested that involving students in their own educational planning provides them with opportunities to practice the essential self-determination skills of goal setting, decision making, and problem solving. Furthermore, teachers have reported that students who knew more about their IEP development demonstrated more self-determination skills (Mason, Field, & Sawilowsky, 2004).

One of the challenges that special education teachers face as they work to involve students more actively in their IEP process is how to balance that instruction with all their other responsibilities (Mason, McGahee-Kovac, Johnson, & Stillerman, 2002). Test et al. (2004) stated that it is "imperative to identify the most efficacious methods for promoting

student IEP involvement given limited instructional time and current demands regarding high-stakes assessment” (p. 408). Indeed, educators will need to consider the current standards-based reform movement and embed academic skills instruction into activities that prepare students to participate in developing their IEPs. The IEP process is just that—a *process*. It involves several stages (i.e., planning, drafting, meeting, and implementing; Konrad & Test, 2004), so teachers have a range of options for including students and for embedding critical academic skills.

One such critical academic skill is proficiency in written expression. Unfortunately, students with LD, when compared to their peers without disabilities, often struggle when learning to write (Newcomer & Barenbaum, 1991), and their writing difficulties follow them into adulthood (Li & Hamel, 2003). Therefore, there is a particular need to employ effective writing interventions for students with LD. Fortunately, there is a considerable amount of research documenting effective interventions designed to help students with LD improve their writing skills. One such intervention is the self-regulated strategy development model (SRSD), developed by Graham and Harris (Harris, Schmidt, & Graham, 1998). To date, there have been more than 20 studies documenting the effectiveness of SRSD to teach writing strategies.

Graham, Harris, MacArthur, and Schwartz (1991) synthesized the results of some of the earliest studies included in this line of research, which focused on teaching students with LD to use self-regulating strategies to improve their writing performance. The studies documented the following findings: First, students with LD did not use effective strategies and processes to carry out writing and revising tasks. They concentrated on lower level skills (i.e., spelling, handwriting, and punctuation), which appeared to interfere with other writing processes, like planning and generating ideas. Furthermore, they lacked knowledge about writing and about what constitutes good writing, and they tended to overestimate their writing capabilities.

Second, strategy instruction was shown to be an effective method of improving the overall quality, length, and structure of written compositions of students with LD. Moreover, strategy instruction increased students’ planning time and improved their metacognitive knowledge and self-efficacy. Furthermore, students were able to maintain their gains and generalize the skills across people and settings.

GO 4 IT . . . NOW! strategy instruction is an intervention based on the SRSD model that is designed to teach students paragraph-writing skills while teaching them to write IEP goals and objectives. The effectiveness of this intervention was tested with four high school students with cognitive and orthopedic disabilities (Konrad, Trela, & Test., 2006). The findings indicated a functional relationship between one-on-one GO 4 IT . . . NOW! strategy instruction and students’ abilities to write potential IEP goals and paragraphs. These findings provided initial evidence for the effectiveness of GO 4 IT . . . NOW! strategy instruction. Specifically, students

were able to articulate, in writing, several suggested IEP goals, which might enable them to participate more fully in the process of developing their IEPs. Furthermore, the intervention had the added benefit of teaching students an academic skill—namely, paragraph writing. However, there is a need to determine whether this intervention can be effectively delivered in group settings, and there must be systematic replications to build a case for external validity (Horner et al., 2005). Therefore, the purpose of this study was to determine the effects of GO 4 IT . . . NOW! strategy instruction, delivered in a group instruction format, on students’ (a) abilities to write IEP goals and objectives and (b) paragraph-writing skills.

METHOD

Participants

The participants were 12 students (see Table 1) in four middle school resource classrooms. To be included, students needed to (a) be identified with and receiving services for a high-incidence disability in a resource setting for language arts, (b) have parental consent and student assent, and (c) be able to write sentences but unable to write paragraphs. This final criterion was important because the intervention targeted paragraph writing but relied on the prerequisite skill of sentence writing. In classrooms where more than three students met these inclusion criteria, three students were randomly selected to participate.

Students were in Grades 5 to 8 and ranged in age from 11 to 15, with a mean age of 13.4. Two thirds of the participants were boys, and almost all were White ($n = 10$). Two students, John and Jack, were receiving services for English as a second language. The majority of the students were identified with learning disabilities (LD; $n = 7$). However, three were identified with “other health impairments” (OHI), one with a behavioral-emotional disability (BED), and one with an “educable mental disability” (EMD). Only Zach, DJ, and Ariel had ever attended an IEP meeting.

Setting

Intervention and data collection took place in the students’ language arts resource classrooms, which were located in two public middle schools in the southeastern United States. Classes 1 and 2 were in School 1, and Classes 3 and 4 were in School 2.

School 1. School 1 was a middle school (Grades 6–8) located in a suburb of a large southeastern city. Class 1 was an eighth-grade class that had 10 students, and Class 2 was a seventh-grade class with 10 students. Most of the students in these two classes were identified with LD, although there were students identified with BED and EMD as well.

TABLE 1. Demographic Characteristics of Participants

Pseudonym	Gender	Race	Grade	Age	Disability	Standard score	
						Reading	Writing
Class 1							
John	Male	Latino	8	15	LD	67 ^a	59 ^a
Ben	Male	White	8	14	LD	87 ^b	89 ^b
Josh	Male	White	8	13	LD	84 ^b	84 ^b
Class 2							
Cody	Male	White	7	13	LD	72 ^b	70 ^b
Ashley	Female	White	7	13	LD	68 ^b	78 ^b
Sid	Male	White	7	13	BED	82 ^c	91 ^c
Class 3							
Zach	Male	White	5	11	OHI	103 ^b	85 ^b
Catherine	Female	White	7	13	LD	69 ^c	64 ^c
Kelly	Female	White	6	13	OHI	82 ^c	91 ^c
Class 4							
DJ	Male	White	8	15	EMD	63 ^b	61 ^b
Jack	Male	Asian	8	14	LD	60 ^b	63 ^b
Ariel	Female	White	8	14	OHI	74 ^b	77 ^b

Note. LD = learning disabilities; BED = behavioral-emotional disabilities; OHI = other health impairments; EMD = educable mental disabilities.

^aWoodcock-Johnson Tests of Achievement-Revised (McGrew, Werder, & Woodcock, 1991). ^bWoodcock-Johnson Tests of Achievement, 3rd ed. (Woodcock, McGrew, & Mather, 2001). ^cWechsler Individual Achievement Test (Psychological Corporation, 2001).

School 2. School 2 was a K–8 school located in a rural area. Class 3 was a multigrade (Grades 5–8) class that had 8 students. Students in this class were identified with LD, OHI, EMD, and BED. Class 4 also was a multigrade (Grades 6–8) class with 10 students. Students in this class were identified with LD, OHI, and EMD.

Interventionists

Four special education teachers implemented the intervention. Teachers were recruited through graduate-level classes at the university as well as by principal nomination. The teachers were selected based on the grade levels they taught (i.e., 5–8), the content they taught (i.e., language arts), and the population and environment in which they taught (i.e., high-incidence disabilities in a resource or self-contained setting). Other factors that were considered in selecting teachers were their willingness to volunteer and the proximity of their schools to the university.

Teacher 1 held K–12 licensure in LD and a master's degree in special education. He had 10 years of experience teaching language arts to students with disabilities. Teacher 2 held licensure in elementary education and emergency licensure in special education. She was nearing completion of a

master's degree and licensure program in special education. She had 4 years of experience teaching language arts to students with disabilities. Teacher 3 held K–12 licensure in LD and a bachelor's degree in psychology and had 3 years of experience teaching language arts to students with disabilities. Finally, Teacher 4 held emergency licensure in special education and a bachelor's degree in political science. She had one year of experience teaching language arts to students with disabilities. Before beginning the intervention, teachers received approximately 2 hours of training in how to implement the lessons.

Scorers

The primary scorer was the first author. A second and third scorer, who were special education doctoral students, also scored students' writing to determine interrater reliability.

Dependent Variables

Ten dependent variables were measured in this study. The two primary dependent variables were (a) students' written articulation of goals and objectives and (b) quality of writing in students' goal paragraphs.

Written Articulation of Goals and Objectives. Students' abilities to write IEP goals and objectives were measured using a 12-point scoring guide. The scoring guide included six items, each of which could be scored with a 0 (no evidence of this skill or component, or response is incorrect); 1 (shows an attempt, but response is incomplete or unrelated); or 2 (complete response that makes sense and reflects student's understanding of IEP process). The first item was an indication of students' abilities to articulate a goal based on a *self-identified* need. The next four items indicated students' abilities to name objectives that would be appropriate steps toward reaching that goal. The final item indicated students' abilities to identify an appropriate timeline for accomplishing the goal. This scale was used by Konrad et al. (2006), and interrater reliability was determined to be 90%.

Quality of Writing in Students' Goal Paragraphs. The quality of writing in students' IEP goal paragraphs was measured using a 10-point paragraph scoring guide, which was a modified version of a scale used by Wallace and Bott (1989). Points were distributed as follows: 2 points for a topic sentence, 1 point for each supporting detail (up to 4 points), 1 point for logical presentation of ideas, 1 point for appropriate use of transition words, 1 point for a restatement of the topic in the concluding sentence, and 1 point for excluding extraneous information.

To determine the content validity of the paragraph scoring guide, three general education language arts teachers examined it and indicated that it was appropriate and rigorous enough for use in a general education classroom. Therefore, the scoring guide was determined to have content validity.

Length of Students' Goal Paragraphs. To determine paragraph length, the number of words written was counted. A word was defined as "any series of letters separated from another series of letters by a space" (Espin et al., 2000, p. 144). A word did not have to be spelled correctly to be counted.

CWS-IWS in Students' Goal Paragraphs. Another dependent variable was the number of correct word sequences minus the number of incorrect word sequences (CWS-IWS). A correct word sequence was defined as "any two adjacent correctly spelled words that are semantically and syntactically acceptable within the context of the sentence according to a native speaker of the English language" (Videen et al., as cited in Espin et al., 2000, p. 144). Correct capitalization at the beginning of a sentence, paragraph indentation, and correct end punctuation were also counted as correct "words." To determine CWS-IWS, each word sequence was marked as correct or incorrect. Then the number of incorrect sequences was subtracted from the number of correct sequences.

CWS-IWS With Spelling Errors Excluded in Students' Goal Paragraphs. Given that the intervention did not

focus on spelling skills, an additional CWS-IWS measure (CWS-IWS-SpEx) was taken. CWS-IWS was calculated a second time; however, this time, words were counted correct if they were used correctly within the context of the sentence, even if they were not spelled correctly.

Quality of Writing in Generalization Paragraphs. The quality of writing in students' generalization paragraphs was measured using the same 10-point paragraph scoring guide used to measure the quality of their goal paragraphs.

Length of Generalization Paragraphs. The total number of words written was counted using the same criteria as for students' goal paragraphs.

CWS-IWS in Students' Generalization Paragraphs. CWS-IWS in students' generalization paragraphs was measured via the same method used for examining students' goal paragraphs.

CWS-IWS With Spelling Excluded in Generalization Paragraphs. CWS-IWS-SpEx in students' generalization paragraphs was measured via the same method used for examining students' goal paragraphs.

Quality of Written Responses to Sample State Writing Test Prompts. Two prompts from past seventh-grade state writing assessments were selected, one for a pretest and one for a posttest. Procedures similar to the state's actual scoring procedures were applied. Specifically, two scorers read each essay and assigned points for conventions (0–2 points) and content (unscorable, or 2–8 points). The two scores were then summed, so total scores could range from 4 to 20 points, with 12 set as a passing score for the state assessment. An additional step, not included in the state's scoring process, was taken to ensure reliability. The researcher compared the two scores. If there was agreement, the scores were combined to generate the final score as described earlier. However, if the two scorers did not agree, a third scorer independently scored the essay. This third score was combined with the score that matched the third scorer's rating. In this study, unscorable content scores were converted to zero so that numerical scores could be reported.

Data Collection Procedures

Goal Paragraphs. The teacher distributed paper, pencils, and students' lists of needs that were developed during IEP awareness instruction. For each probe, the classroom teacher instructed students to write an IEP goal paragraph. After 10 min, the teacher instructed students to stop writing and collected their paragraphs and needs sheets.

Generalization Paragraphs. The teacher distributed paper and pencils and instructed students to write a paragraph

in response to a prompt, which was projected on a transparency using an overhead projector and read aloud to students. After 10 min, the teacher instructed students to stop writing and collected their paragraphs.

Interrater Reliability. To ensure interrater reliability, the first author trained two outside scorers on how to score paragraphs. Training included several practice opportunities and ended when all three scorers reached a minimum of 90% agreement on all dependent measures for three consecutive paragraphs. The outside scorers rated approximately 20% of all paragraphs from all phases of the study. Item-by-item analysis revealed that interrater reliability ranged from 33% to 100%, with a mean of 81%, on the goal articulation scale, and from 56% to 100%, with a mean of 88%, for the paragraph writing scale for students' goal paragraphs. Overall interrater reliability on the paragraph writing scale for students' generalization paragraphs ranged from 67% to 100%, with a mean of 86%.

Interrater reliability for CWS-IWS on students' goal paragraphs ranged from 85% to 100%, with a mean of 94%, when spelling was included and from 84% to 100%, with a mean of 91%, when spelling was excluded. Overall interrater reliability for CWS-IWS on students' generalization paragraphs ranged from 74% to 100%, with a mean of 92%, when spelling was included and from 69% to 100%, with a mean of 91%, when spelling was excluded.

Using the gross method, interrater reliability for length of students' goal paragraphs ranged from 96% to 100%, with a mean of 99%. Reliability for length of students' generalization paragraphs ranged from 94% to 100%, with a mean of 99%.

Social Validity. Several methods of determining the social validity of the intervention were used to evaluate the importance and appropriateness of the intervention goals, procedures, and outcomes (Wolf, 1978). First, three teachers examined the scoring guide to determine whether the mastery criteria set for the study (80% for paragraph quality) would be rigorous enough to assess paragraph writing. All three teachers indicated that the criteria were rigorous enough to assess paragraph writing of students in general education.

Second, students completed a consumer satisfaction survey on the last day of intervention. This survey, a modified version of Snyder's (2002) *Student Intervention Rating Profile*, included eight items to which students responded using a 4-point Likert scale to indicate their level of agreement or disagreement with the statement.

Third, on the last day of postintervention probes, the interventionists completed a survey that included 15 statements to which teachers responded using a 4-point Likert scale to indicate their level of agreement or disagreement. The survey sought to assess teachers' perceptions of intervention goals (Items 1–3), procedures (Items 7–10), and outcomes (Items 11–15).

Finally, the researcher randomly selected two goal paragraphs (one from baseline and one following intervention) and two generalization paragraphs (one from baseline and one following intervention) for each student. The same teachers who examined the scoring guide examined these paragraphs and indicated (a) which ones were better written and (b) which ones would be acceptable in their general education language arts classes.

Experimental Design

The design was a multiple probe (Tawney & Gast, 1984) across groups of students. However, the design differed from typical multiple probe designs in that data were not collected on the primary dependent variables during intervention. There were several reasons for not collecting data throughout the intervention. First, given that each goal paragraph had to be based on a student's need, the number of paragraphs that students would be able to write was limited. It did not make sense to have students develop superficial needs merely for the purposes of research. Instead, students' goals were based on authentic needs. Moreover, with written expression, gains are often not seen immediately (Sexton, Harris, & Graham, 1998), so, again, it did not make sense to collect data throughout the intervention. This type of design has been commonly used in studies examining the effects of written expression interventions (e.g., Troia & Graham, 2002).

Procedure

IEP Awareness Instruction. Before baseline measures were taken, all students participated in five IEP awareness lessons. The purpose of this instruction was to provide students with a foundation and rationale for learning to write their IEP goals and to have students generate a list of needs—both academic and non-academic—that could be used to write goals during intervention.

Baseline. In baseline, students wrote two types of paragraphs each day: an IEP goal paragraph and a generalization paragraph, which was a response to an expository prompt.

GO 4 IT . . . NOW! Strategy Instruction. The GO 4 IT . . . NOW! instructional package included 11 daily 45-min lessons, which teachers delivered in a whole-class format. The teachers followed a script, and each lesson followed a similar format. The lesson sequence was based on the self-regulated strategy development model (Harris et al., 1998), which includes six instructional stages:

1. *Develop and activate prior background knowledge:* Students learned (a) that IEP goals must come from the needs in their present levels of performance, and (b) to identify examples and nonexamples of paragraphs.

2. *Introduce the strategy:* The teacher introduced the GO 4 IT . . . NOW! strategy, which teaches students to write a **G**oal statement (topic sentence) and **O**bjectives (4 of them, supporting details), and to **I**dentify a **T**imeline. The teacher explained when the strategy could be used and that the **NOW** portion of the strategy could be used to write all kinds of paragraphs: **N**ame topic, **O**rders details, and **W**rap it up and restate topic.
3. *Model the strategy:* The teacher modeled the strategy, using his or her own goals and objectives. The teacher modeled the process by “thinking aloud.”
4. *Memorize the strategy:* Two strategies were used to support students in memorizing the strategy: group choral responses and paired practice with flashcards.
5. *Support strategy use:* Students used the needs identified during IEP awareness instruction to apply the strategy. They wrote fill-in-the-blank paragraphs, met with the teacher to obtain feedback, and made revisions based on that feedback.
6. *Independent performance:* This phase lasted 3 days. On each day, students wrote a goal paragraph, which the teacher scored using a student-friendly version of the scoring guide. Students then made revisions to their paragraphs based on the feedback. The teacher assisted students so that the revised version earned all possible points. Students used the scoring guide to self-evaluate their paragraphs and were encouraged to make positive self-statements to reward their success.

Postintervention. Following instruction, the students wrote three new goal paragraphs, one per day for 3 consecutive days. The same procedures as those used for baseline probes were used for postintervention probes.

Generalization.

Phase I. Throughout all phases of the study, students wrote paragraphs in response to typical expository clarification essay prompts. A middle school language arts teacher examined the prompts to ensure they were of similar difficulty and familiarity. Then, for each probe, a generalization prompt was randomly selected from the pool of prompts.

Phase II: Additional Prompting. Generalization paragraphs for students in Classes 1 and 2 did not improve following intervention, so an additional prompting procedure (reminding students to apply the NOW part of the strategy)

was added for Class 2. The teacher used this procedure before administering generalization probes for 3 consecutive days.

Phase III: Additional Feedback. Students in Class 2 showed only minimal improvement with the additional prompting procedure, so three booster sessions were added. These sessions lasted approximately 20 min and consisted of (a) providing students with feedback on their most recently written generalization paragraph, (b) having students rewrite the paragraph with a fill-in-the-blank paragraph template, and (c) having the students self-evaluate the quality of the rewritten paragraph. The teacher used these booster lessons before administering the generalization probes for 3 consecutive days.

Maintenance. Each participant wrote paragraphs several weeks after completing intervention. The first maintenance check was either 2 or 4 weeks after intervention, and the second check was 6 weeks after intervention.

Procedural Reliability. The first author observed three instructional sessions conducted by each teacher. The lesson plan was divided into segments and used as a fidelity checklist. The researcher marked each segment as present (+) or not present (–) and calculated a percentage of present segments. Across all four teachers, adherence to procedures ranged from 75% to 100%, with a mean of 94.2%. For Teacher 1, fidelity ranged from 98% to 100%, with a mean of 98.7%. For Teacher 2, fidelity ranged from 93% to 100%, with a mean of 97.7%. For Teacher 3, fidelity ranged from 75% to 100%, with a mean of 87.3%. Finally, fidelity for Teacher 4 ranged from 92.3% to 94.3%, with a mean of 93.4%.

Furthermore, the researcher observed each teacher administer four probes and used a checklist to indicate whether teachers were adhering to administration procedures. Adherence to probe administration procedures ranged from 75% to 100%, with a mean of 96.9%.

RESULTS

The findings for functional relationships identified are presented in Figures 1 through 3. Figures and tables presenting additional findings are available by contacting the first author.

Effects on Students' Abilities to Write IEP Goals and Objectives

Figure 1 presents students' scores on the IEP content scoring guide. These results indicate a functional relationship between GO 4 IT . . . NOW! strategy instruction and students' written articulation of IEP goals and objectives.

Class 1. Across the three students in this class, baseline scores ranged from 2 to 4, with a mean of 2.2. Following instruction, scores ranged from 4 to 12, with a mean of 9.0.

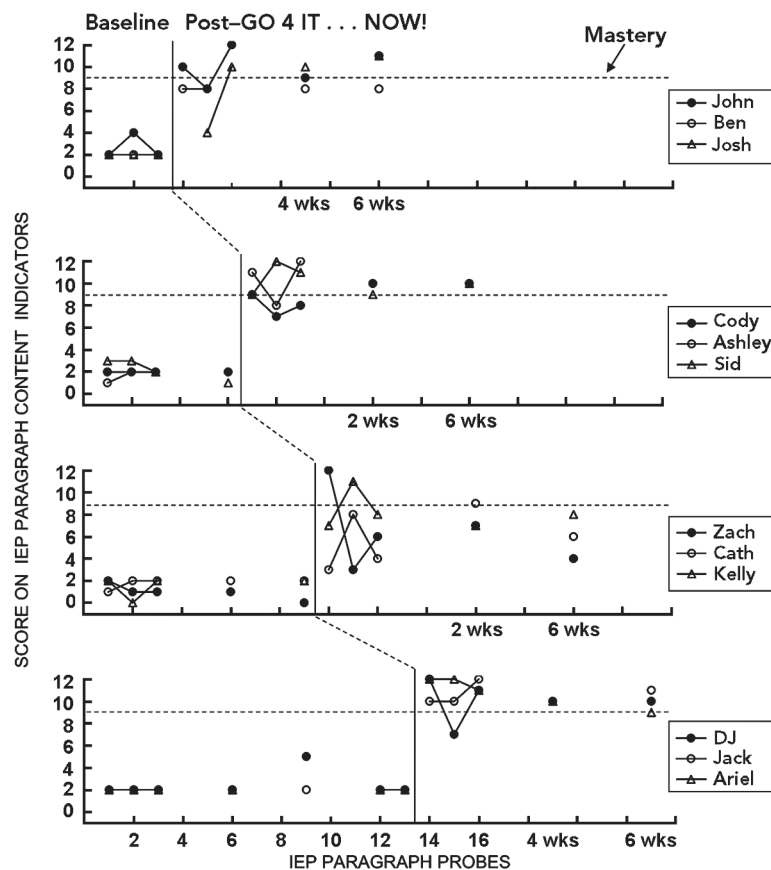


FIGURE 1. Students' IEP content scores for goal paragraphs by class.

Visual inspection of Figure 1 shows a clear change in level between baseline and intervention for both John and Ben. Only two postintervention scores were available for Josh. The first of these two scores showed only a slight improvement over baseline, but his second score was higher, indicating an ascending trend following intervention. At maintenance checks, all three students appeared to maintain the gains made during intervention.

Class 2. Across the three students in this class, baseline scores ranged from 1 to 3, with a mean of 2.0. Following instruction, scores ranged from 7 to 12, with a mean of 9.7. Visual inspection of Figure 1 shows a clear change in level for all three students. Furthermore, students appeared to maintain gains made during intervention.

Class 3. Across the three students in this class, baseline scores ranged from 0 to 2, with a mean of 1.4. Following instruction, scores ranged from 3 to 12, with a mean of 6.9. Visual inspection of Figure 1 shows a clear change in level following intervention for Kelly. However, results were not as robust for Zach and Catherine. Visual inspection of the graph shows a clear change in level immediately following intervention for Zach. However, the content score in the second postintervention paragraph dropped to a level only slightly higher than baseline. The third postintervention paragraph

showed an increase over the second, but it did not return to a level of mastery. The graph shows an ascending trend following intervention for Catherine; however, she did not reach mastery criteria. Students appeared to maintain gains at the first maintenance check, but their scores began to decline by the second maintenance check (see Figure 1).

Class 4. Across the three students in this class, baseline scores ranged from 2 to 5, with a mean of 2.2. Following instruction, scores ranged from 7 to 12, with a mean of 10.5. Visual inspection of Figure 1 shows a clear change in level for all three students. Furthermore, students maintained gains made during intervention.

Effect on the Quality of Students' IEP Goal Paragraphs

Figure 2 presents students' writing quality scores on their goal paragraphs. These findings indicate a functional relationship between intervention and the quality of students' goal paragraphs.

Class 1. Across the three students in this class, baseline scores ranged from 1 to 5, with a mean of 2.8. Following instruction, scores ranged from 4 to 10, with a mean of 8.8. Visual inspection of Figure 2 shows a clear change in level

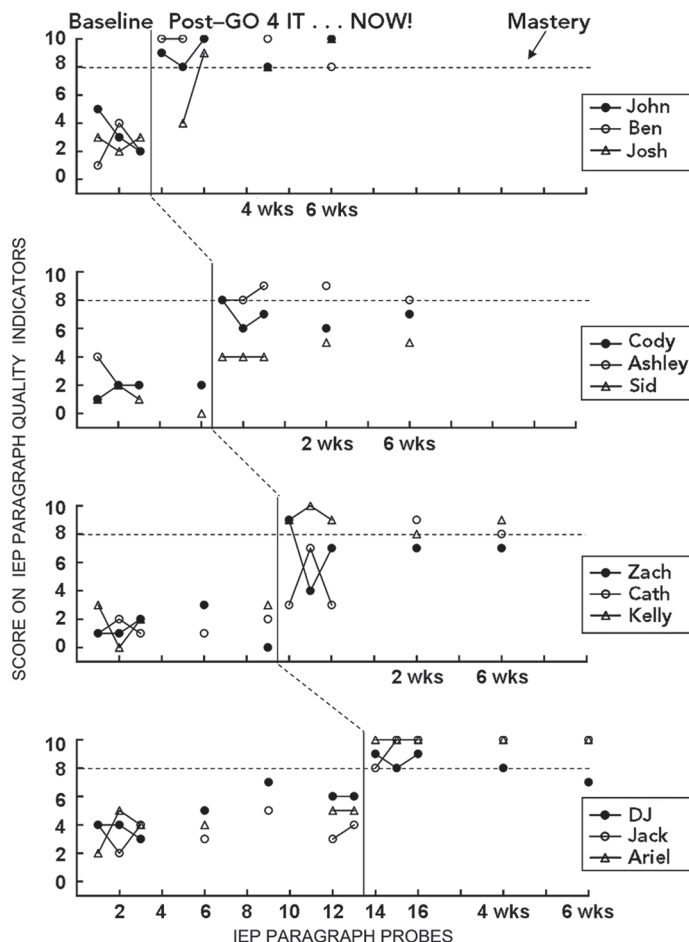


FIGURE 2. Students' writing quality scores for goal paragraphs by class.

following intervention for John and Ben. The first of Josh's two postintervention scores showed only a slight improvement over baseline, but the second one was higher, indicating an ascending trend following intervention. All three students maintained gains made during intervention.

Class 2. Across the three students in this class, baseline scores ranged from 0 to 4, with a mean of 1.8. Following instruction, scores ranged from 4 to 9, with a mean of 6.5. Figure 2 shows a change in level following intervention for Cody and Ashley. Sid showed a slight change in level following intervention; however, he did not reach mastery on any of his postintervention probes. All three students maintained gains made during intervention.

Class 3. Across the three students in this class, baseline scores ranged from 0 to 3, with a mean of 1.6. Following instruction, scores ranged from 4 to 10, with a mean of 7.3. Figure 2 shows a clear change in level following intervention for Kelly. However, results were not as robust for Zach and Catherine. There was a change in level immediately following intervention for Zach. However, the quality score in the second paragraph dropped to a level only slightly higher than

baseline. The third postintervention paragraph showed an increase over the second, but it did not return to a level of mastery. Figure 2 shows an increase in variability following intervention for Catherine: The first and third paragraphs earned scores only slightly higher than baseline scores; however, the second score was much higher. Students showed maintenance of gains or improvement at the mastery checks.

Class 4. Across the three students in this class, baseline scores ranged from 2 to 7, with a mean of 4.3. Following instruction, scores ranged from 9 to 10, with a mean of 9.3. Visual inspection of Figure 2 shows a clear change in level for all three students. Furthermore, students maintained gains made during intervention.

Effects on the Quality of Students' Generalization Paragraphs

Figure 3 presents students' writing quality scores on generalization paragraphs. These findings indicate a functional relationship between GO 4 IT . . . NOW! strategy instruction, with booster sessions, and the quality of students' generalization paragraphs.

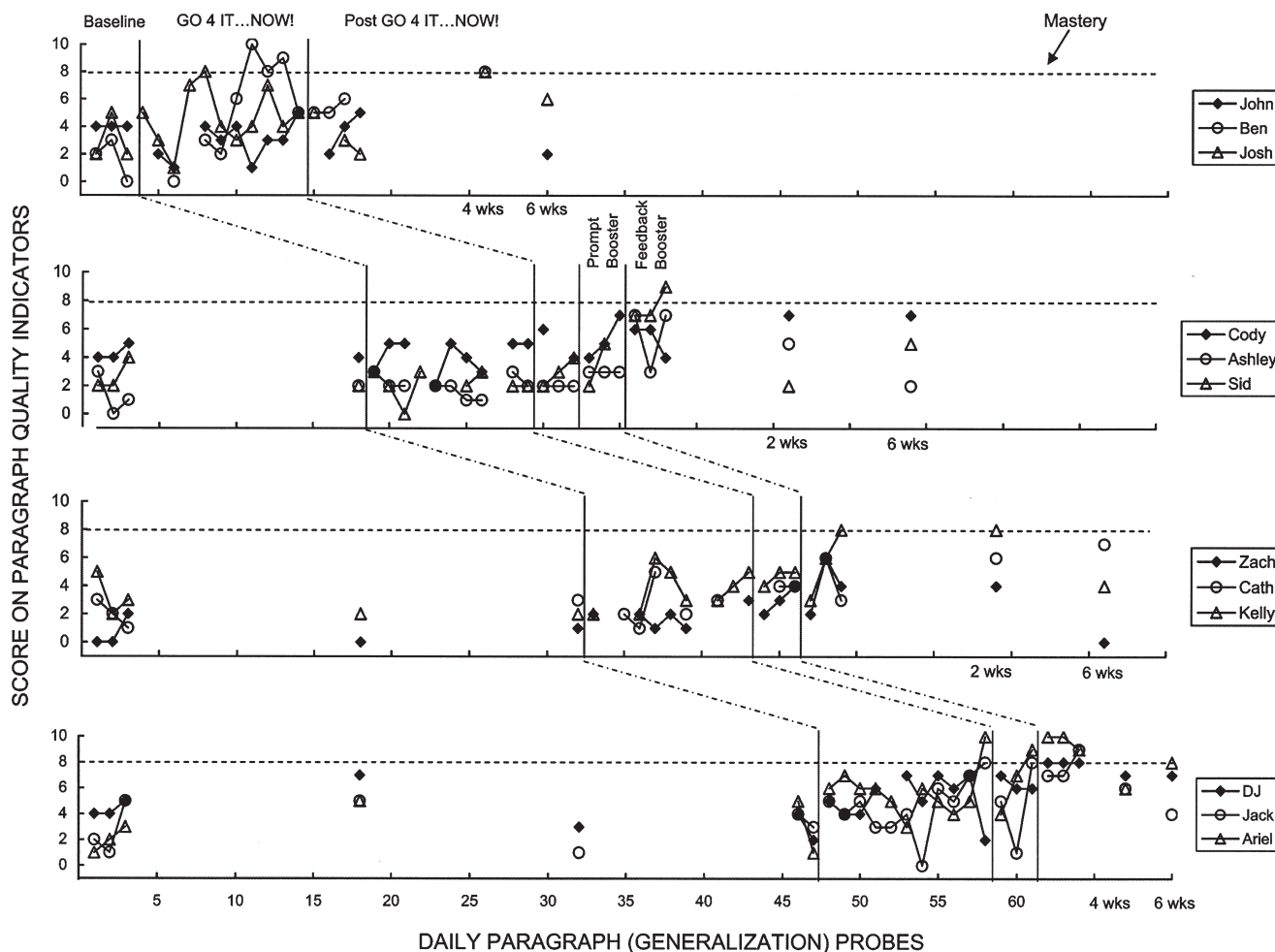


FIGURE 3. Students' writing quality scores for generalization paragraphs by class.

Class 1. Across the three students in this class, baseline scores ranged from 0 to 5, with a mean of 2.9. During instruction, scores ranged from 0 to 10, with a mean of 4.3. Following instruction, scores ranged from 2 to 8, with a mean of 4.6. Visual inspection of Figure 3 indicates that students in Class 1 did not generalize the strategy to their daily paragraphs. Students in this class did not participate in the booster sessions.

Class 2. Across the three students in this class, baseline scores ranged from 0 to 5, with a mean of 2.8. During instruction, scores ranged from 0 to 5, with a mean of 2.8. Following instruction, scores ranged from 2 to 9, with a mean of 4.5. Similar to Class 1, students in Class 2 did not generalize the strategy to their daily paragraphs, although Cody was showing some gradual improvements (see Figure 3). Therefore, an additional prompting procedure was added to the probe administration. Although there appeared to be some response to the prompts, the changes were not robust, so another booster phase was added for Classes 2, 3, and 4. Para-

graph quality improved for Ashley and Sid following this booster phase.

Class 3. Across the three students in this class, baseline scores ranged from 0 to 5, with a mean of 1.9. During instruction, scores ranged from 1 to 6, with a mean of 2.8. Following instruction, scores ranged from 0 to 8, with a mean of 4.5. Figure 3 shows slight increases in quality during or following intervention for all three students. However, robust changes were not noted until the booster sessions were added. All three students wrote their best paragraphs during the booster phase, and Catherine and Kelly maintained these gains at the 2-week maintenance check.

Class 4. Across the three students in this class, baseline scores ranged from 1 to 7, with a mean of 3.4. During instruction, scores ranged from 0 to 10, with a mean of 5.2. Following instruction, scores ranged from 1 to 10, with a mean of 7.0. Visual inspection of Figure 3 shows increases in quality during and following intervention for all three students.

However, the most robust changes were made following the booster sessions. All three students met mastery criteria on at least one of their booster paragraphs. The students maintained gains made, although by the second maintenance check, Jack's paragraph quality had declined.

Dependent Variables Not Affected by Instruction

Length of Students' IEP Goal Paragraphs. Across all students and probes, the length of baseline goal paragraphs ranged from 15 to 142 words, with a mean of 65.8 words. Following intervention, paragraph length ranged from 23 to 152 words, with a mean of 66.4. For three students (Ashley, Sid, and Catherine), paragraph length increased; however, for the other students, paragraph length did not increase. Given that individual results were mixed, a functional relationship could not be determined.

CWS-IWS in Students' IEP Goal Paragraphs. Across all students and probes, CWS-IWS scores in baseline goal paragraphs ranged from -17 to 66, with a mean of 22.5. Following intervention, CWS-IWS scores ranged from 8 to 92, with a mean of 42.0. Although eight of the students (67%) showed increases in CWS-IWS scores following intervention, CWS-IWS did not increase for Josh, Cody, DJ, or Ariel. Given that individual results were mixed, a functional relationship could not be determined.

CWS-IWS-SpEx in Students' IEP Goal Paragraphs. Across all students and probes, CWS-IWS-SpEx scores in baseline goal paragraphs ranged from 0 to 96, with a mean of 39.4. Following intervention, CWS-IWS-SpEx scores ranged from 22 to 118, with a mean of 57.8. Although eight of the students (67%) showed increases in CWS-IWS-SpEx following intervention, CWS-IWS-SpEx did not increase for Josh, Cody, DJ, or Ariel. Given that individual results were mixed, a functional relationship could not be determined.

Length of Students' Generalization Paragraphs. Across all students and probes, the length of baseline generalization paragraphs ranged from 11 to 136 words, with a mean of 66.6 words. Following intervention, paragraph length ranged from 16 to 165 words, with a mean of 54.3. Although the intervention appeared to have little to no effect on the length of paragraphs written by students in Classes 1, 2, and 4, the paragraphs of students in Class 3 did increase in length. Given that individual results were mixed, a functional relationship could not be determined.

CWS-IWS in Students' Generalization Paragraphs. Across all students and probes, CWS-IWS scores on baseline generalization paragraphs ranged from -8 to 93, with a mean of 23.0. Following intervention, CWS-IWS scores ranged from -2 to 59, with a mean of 20.9. The CWS-IWS scores in

paragraphs written by Catherine and Zach increased following intervention, but there were no increases in the other students' paragraphs. Given that individual results were mixed, a functional relationship could not be determined.

CWS-IWS-SpEx in Students' Generalization Paragraphs. Across all students and probes, CWS-IWS-SpEx scores on baseline generalization paragraphs ranged from 5 to 115, with a mean of 42.9. Following intervention, CWS-IWS-SpEx scores ranged from 8 to 139, with a mean of 39.9. CWS-IWS-SpEx increased only in Catherine's and Zach's paragraphs following intervention. Given that individual results were mixed, a functional relationship could not be determined.

Quality of Students' Responses to a Sample State Writing Test Prompt. Pretest and posttest scores on the sample state writing assessment were gathered for students in Classes 2, 3, and 4. The pretest and posttest were not administered in Class 1, as a result of miscommunication between the experimenter and the interventionist. Furthermore, one student in Class 2 (Catherine) was not present for the pretest, so no data are reported for her.

Pretest scores ranged from 0 to 4, with a mean of 2.0, and posttest scores ranged from 0 to 4, with a mean of 3.4. Three students, Ashley, Zach, and Kelly, showed slight improvement from the pretest to the posttest. However, the improvement was marginal and characterized by moving from essays that could not be scored to essays that received the lowest possible rating (4). Furthermore, according to the "passing" criteria set by the state (i.e., 12 points), none of the eight students would have passed either the pretest or the posttest.

Social Validity Findings

Students' Perceptions. As a measure of consumer satisfaction, following intervention, the students completed a modified version of Snyder's (2002) *Student Intervention Rating Profile*. Using a 4-point Likert scale (i.e., 1 = *disagree*, 4 = *agree*), the total scores could range from 8 (all *disagree*) to 32 (all *agree*), with higher scores indicating greater treatment acceptability. Total scores ranged from 22 to 32, with a mean of 28.9, indicating that for the most part, the students found GO 4 IT . . . NOW! strategy instruction acceptable.

Teachers' Perceptions. Following the intervention, each teacher completed a teacher satisfaction survey, which included 15 items to which teachers responded using a 4-point Likert scale to indicate their level of agreement or disagreement with the statement. Total points could range from 15 to 60, with higher scores indicating higher levels of satisfaction with the intervention. The teachers' ratings ranged from 55 to 60, with a mean of 58.3.

General Education Teachers' Assessments of Students' Paragraphs. Three general education teachers ex-

amined two randomly selected goal paragraphs (one from baseline and one following intervention) and two generalization paragraphs (one from baseline and one following intervention) for each student. The teachers were asked to indicate (a) which paragraphs were better written and (b) which ones would be acceptable in their general education language arts classes. Overall, there were 36 opportunities (i.e., 12 pairs of paragraphs, one for each student, multiplied by 3 general education teachers) for the pairs of IEP goal paragraphs to be assessed. In all 36 cases, the general education teachers selected the postintervention IEP goal paragraph as the better written paragraph. These findings indicate that for all 12 students, the intervention was sufficient in improving their IEP goal paragraphs enough to be recognized by as the better of 2 paragraphs by an outside rater.

There were 72 opportunities (i.e., 2 paragraphs multiplied by 12 students multiplied by 3 general education teachers) for goal paragraphs to be rated as acceptable for a general education class. Of these 72 opportunities, 15 (20.8%) were rated as acceptable. All 15 of these paragraphs were written after intervention. Furthermore, with the exception of Zach and DJ, each student's postintervention goal paragraph was rated acceptable by at least one general education teacher.

Overall, there were 36 opportunities (i.e., 12 pairs of paragraphs multiplied by 3 general education teachers) for the pairs of generalization paragraphs to be assessed. General education teachers selected the postintervention generalization paragraphs as the better written paragraph 72.2% of the time (26 paragraphs).

There were 72 opportunities (i.e., 2 paragraphs multiplied by 12 students multiplied by 3 general education teachers) for generalization paragraphs to be rated as acceptable for a general education class. Of these 72 opportunities, only 5 (6.9%) were rated as acceptable. However, two of these paragraphs were written before the intervention.

DISCUSSION

The purpose of this study was to investigate the effects of an 11-lesson instructional package on (a) students' abilities to articulate, in writing, IEP goals and objectives and (b) students' paragraph-writing skills. The findings demonstrated a functional relationship between GO 4 IT . . . NOW! strategy instruction and students' abilities to write potential IEP goals and the quality of students' IEP goal paragraphs. Furthermore, teachers and students found the treatment acceptable. Specific discussion of the study's limitations and findings is presented hereafter.

Limitations

This study was atypical of most single-subject studies in that no data were collected on the primary dependent variables during the intervention. Although precedent has been set for this type of design in studies examining the effects of written expression interventions (e.g., Troia & Graham, 2002), with-

out these intervention data, it is difficult to tell when the students began to learn the new skills.

Another limitation is the variability in interrater reliability. Although interrater reliability on each of the measures reached an acceptable mean above 80%, the ranges indicated some measures of interrater reliability as low as 33%. There are several explanations that may account for these low levels of agreement. First, although there were explicit scoring guidelines and thorough training and retraining, coming to agreement on the quality of students' writing proved difficult because scoring guidelines did not predict the range of written responses that students produced. Second, on the IEP content scoring guide, there were only six items. This meant that each disagreement resulted in a reliability decrease of 16.7 percentage points (i.e., reliability dropped to 83.3% for one disagreement, 67.7% for two disagreements, and so on). Similarly, on the paragraph quality scale, there were only nine items. This meant that each disagreement resulted in a reliability decrease of 11 percentage points.

Furthermore, the quality scale was set up so that if a student did not earn credit for a topic sentence, he or she could not earn points for supporting details. Therefore, if one scorer awarded points for a topic sentence and the other scorer did not, there would likely be disagreement for the remaining sentences in the paragraph. This type of problem was also true for the "paragraph information is logically presented" item. For this item, a student could not earn credit if he or she did not earn points for at least two supporting details. Thus, if one scorer indicated that the student had one supporting detail and another scorer indicated that the student had two, not only would there be a disagreement for supporting details, but this disagreement would lead to the opportunity for disagreement on the logical presentation of paragraph information.

Finally, effect sizes were not calculated for any of the dependent variables. Several behavior analysts have cautioned against the use of such methods for interpreting single-subject research (e.g., Baer, 1977). For example, using effect size metrics (e.g., percentage of nonoverlapping data) may undermine some of the advantages of using single-subject research because they are not sensitive to trends or individual idiosyncrasies (Salzberg, Strain, & Baer, 1987). Furthermore, statistical significance does not necessarily indicate educational significance (Richards, Taylor, & Ramasamy, 1997). Visual inspection of individual graphs provides the most useful information for both researchers and practitioners (Cooper, Heron, & Heward, 1987).

Effects on Students' Abilities to Write IEP Goals and Objectives

All 12 students showed increased ability to write IEP goal paragraphs from baseline to postintervention, and most were able to maintain these gains. This is an important finding, because it demonstrates that students can learn to identify and articulate potential IEP goals and objectives. These skills may

help students to participate more fully across all stages of the IEP process. These findings are consistent with those of Konrad et al. (2006) and represent an extension of the literature in that the intervention was implemented in groups of students, rather than one to one, and participants were middle school students with high-incidence disabilities rather than high school students with low-incidence disabilities.

Effects on the Quality of Students' IEP Goal Paragraphs

All 12 students showed improvements in their IEP paragraph quality after the intervention. Most of these students were able to reach the mastery criteria on at least one of their postintervention IEP paragraphs, with the exception of Sid and Catherine. The fact that these students did not reach mastery may be explained by their numerous absences during instruction. These findings are also consistent with Konrad et al. (2006); however, students' improvements in the earlier study were greater than in the current study. This may be explained by the size of the instructional group (i.e., 1:1 versus 1:8 or 1:10) or by the age of the students (i.e., high school vs. middle school). In a one-to-one situation, it is likely that the students received more individualized feedback on their writing. Findings from studies on instructional grouping provide evidence for this speculation. For example, Vaughn et al. (2003) compared the effects of reading instruction delivered in three different grouping conditions and found that instruction in both the 1:1 and 1:3 conditions was more effective than in the 1:10 condition.

These findings also lend support to the effectiveness of the self-regulated strategy development model (SRSD; Harris, Schmidt, & Graham, 1998). Earlier studies have shown that teaching writing using SRSD improves the quality of students' essays (e.g., De La Paz & Graham, 1997) and stories (e.g., Sawyer, Graham, & Harris, 1992). Furthermore, similar to the students in the current study, students in previous SRSD studies were able to maintain skills over time.

Effects on the Length of Students' Paragraphs

There was no functional relationship between GO 4 IT . . . NOW! instruction and the length of students' paragraphs. These findings stand in contrast to several earlier studies that found that instruction using SRSD increased the length of students' essays (e.g., De La Paz & Graham, 1997). This difference in results might be explained by several differences in study characteristics. First, in the present study, students were timed and given only 10 min to write their paragraphs, whereas in earlier studies, students were given either unlimited time to write (e.g., Troia, Graham, & Harris, 1999) or longer than 10 min (e.g., 35 min; De La Paz & Graham, 2002).

Second, in earlier SRSD studies (e.g., De La Paz & Graham, 1997), students were learning to write essays rather than paragraphs; therefore, it seems logical that one of the aims of the intervention would be to encourage students to write more. In fact, some of the writing strategies that students learned included a specific component that encouraged them to write more (e.g., Graham et al., 1991). Given that students with disabilities tend to write shorter essays than students without disabilities (Newcomer & Barenbaum, 1991), increasing the length of written responses is a reasonable goal. However, this was not the goal of the intervention in the current study. In the current study, students learned a very specific formula for writing a paragraph. Students were encouraged to write complete sentences and to make their points clearly. There was no emphasis during instruction on "writing more." In fact, in some cases, students might have improved their paragraphs by writing shorter, more succinct responses to the prompts. For example, some of Catherine's paragraphs were very long, but she appeared to engage in "knowledge telling," which is characterized by an associative approach to writing, reflects little planning, and may lead the writer off topic (Troia, 2002). Had Catherine taken a more strategic approach to writing, she might have written shorter, but better paragraphs.

Furthermore, predictive validity studies on curriculum-based measures in writing have not identified the number of words as a predictor of overall writing performance for middle school students (Espin et al., 2000). For these reasons, the finding that students did not write longer paragraphs following intervention does not appear to be a problem.

Effects on CWS-IWS With and Without Spelling in Students' IEP Goal Paragraphs

Although a functional relationship could not be definitively determined, 8 of the 12 students (67%) showed increases in CWS-IWS and CWS-IWS-SpEx following intervention. Given that CWS-IWS is a reliable and valid measure of writing performance (Espin et al., 2000; Espin, Scierka, Skare, & Halverson, 1999), these findings support the effectiveness of GO 4 IT . . . NOW! strategy instruction as a way to improve writing skills. It is unclear why CWS-IWS and CWS-IWS-SpEx did not increase for Josh, Cody, DJ, and Ariel.

CWS-IWS-SpEx was selected as a measure in this study because there was no expectation that students' spelling skills would increase, given that the intervention did not target spelling. However, this measure did not provide any differential results when compared to CWS-IWS. In other words, although CWS-IWS-SpEx was lower than CWS-IWS for all students, the changes over time were not different for each of these measures (i.e., both data paths for any individual student showed similar patterns of increases and decreases). No previous research has compared CWS-IWS with and without spelling, so this finding provides evidence that including both measures may be unnecessary.

Effects on the Quality of Students' Generalization Paragraphs

The findings indicate a functional relationship between GO 4 IT . . . NOW! strategy instruction, with booster sessions, and the quality of students' generalization paragraphs. However, it should be noted that students needed explicit instruction and feedback in how to generalize the strategy to their daily paragraphs. Limited generalization is not a surprise, because students with disabilities often have difficulty generalizing writing strategies to other types of writing tasks (Troia, 2002). However, the need for the extra instruction and feedback stands in contrast to the findings of Konrad et al. (2006): Students in the earlier study more readily generalized the skills to their daily generalization paragraphs. There are two possible explanations for this difference in findings.

First, students in the Konrad et al. (2006) study were given as much time as they needed to write their paragraphs, whereas students in the current study were only given 10 min to write. For most students, 10 min appeared to be enough time; however, there may have been some students who could have written better paragraphs if they had been given more time. Second, students in the current study were instructed in groups of 8 to 10 students rather than individually, so they may have received less individualized feedback on their writing.

Effects on CWS-IWS With and Without Spelling in Students' Generalization Paragraphs

There was no functional relationship between GO 4 IT . . . NOW! strategy instruction and CWS-IWS with or without spelling in students' generalization paragraphs. No earlier studies on the effectiveness of SRSD measured CWS-IWS, so there is no existing literature to which these findings can be compared.

General Education Teachers' Assessments of Students' Paragraphs

The general education teachers, when asked to select the better of two IEP goal paragraphs written by the same student, consistently identified the postintervention IEP goal paragraphs as the better ones. Furthermore, in several cases, the teachers indicated that these paragraphs would be acceptable in their general education classes. This finding is especially important, given that the teachers did not know the purpose of the intervention, and they did not know the students in the study. The general education teachers' assessments of the IEP goal paragraphs attest to the social significance of the intervention outcomes and therefore support the use of GO 4 IT . . . NOW! strategy instruction as a way to improve students' writing skills.

However, the general education teachers were less consistent in identifying the postinstruction generalization para-

graphs. Furthermore, there was no instance where two of the teachers identified a generalization paragraph as written at an acceptable level for their classes. Therefore, recommendations to use GO 4 IT . . . NOW! strategy instruction must be tempered by the expectation that students may struggle to generalize the strategy to other types of paragraphs.

Effects on the Quality of Students' Written Responses to a Sample State Writing Test

Only three of the eight students who took the pretest and posttest on this measure improved on the posttest, and for these students, essays improved from unscorable to scorable but received the lowest possible scores. Therefore, practically speaking, the students did not make gains. This finding is consistent with the previous literature showing that students using SRSD can transfer skills to other settings but not to other writing genres (Graham et al., 1991).

There are several possible explanations for why students made no gains from the pretest to the posttest. First, students struggled with generalizing the GO 4 IT . . . NOW! strategy to their daily expository paragraphs, although the text structure of the generalization paragraphs was very similar to that of the IEP goal paragraphs. Given that students were not able to make this type of near transfer to the generalization paragraphs, it would not be expected that they would be able to make a far transfer to an essay.

Second, gains in written expression are usually gradual (Sexton et al., 1998), and it takes longer for students with disabilities than for students without disabilities to show gains (Wong, 2000). Given that the length of the current intervention was short (i.e., 11 lessons), it is not surprising that generalization did not occur.

Perceptions of GO 4 IT . . . NOW! Strategy Instruction

Students felt that this intervention was acceptable, which is especially encouraging given how much writing the intervention and daily probe required students to do every day. The interventionists agreed that GO 4 IT . . . NOW! strategy instruction was helpful and that they would use GO 4 IT . . . NOW! strategy instruction again.

Implications for Research

Horner et al. (2005) suggested that a practice cannot be regarded as evidence based until it has been shown effective in at least five single-subject studies with at least three different researchers and geographical locations. Therefore, for GO 4 IT . . . NOW! strategy instruction to be deemed evidence based using these criteria, there should be at least three systematic replications of the current study, with at least two

more research teams and locations with a minimum of four additional participants.

The variability in interrater reliability on the content and quality scoring guides should be addressed in future studies. Although it is very difficult to prepare for a broad range of student responses, more attention should be paid to training and retraining the outside scorers. One suggestion might be to use the students' paragraphs from the current study to further operationalize each scoring item by providing examples and non-examples of what might earn a point. These examples and non-examples could then be used to train future scorers.

One very important issue for future research is generalization. Efforts should be made to improve the generalization portion of the intervention, and studies should be conducted to test the effectiveness of this improved version. One way to allow for more intense focus on generalization would be to use generalization paragraph quality as the primary dependent variable. Instruction should build in examples of how the strategy is applied to other kinds of writing and a reinforcement contingency for generalized writing.

It is also important to recognize that for students with high-incidence disabilities, paragraph writing is not a final writing goal. Paragraphs are merely building blocks to longer, more sophisticated types of writing. Therefore, future research should examine how this intervention could be intensified to teach students to write essays. A primary dependent variable in such a study might be an "IEP essay," whereas generalization measures in these studies might include district or state writing assessments or norm-referenced writing assessments.

Future research could also investigate the effects of GO 4 IT . . . NOW! instruction on dependent variables other than those that measure writing skills. For example, does GO 4 IT . . . NOW! strategy instruction improve students' self-determination skills? Does GO 4 IT . . . NOW! strategy instruction increase students' participation in their IEP meetings, and is the content of students' goal paragraphs reflected in their actual IEPs? Are students more likely to attain goals when they have written paragraphs about them?

Given that previous research has shown that instruction in smaller groups (e.g., 1/1 or 1/3) is more effective than in larger groups (e.g., 1/10; Vaughn et al., 2003), a future study might seek to compare GO 4 IT . . . NOW! instruction delivered in different-sized-groups. A comparison of grouping conditions should compare student gains, efficiency (i.e., how long it takes for students to reach mastery), and social validity.

Implications for Practice

Teachers who have been looking for ways to integrate strategies to promote self-determination and academic skills may see promise in GO 4 IT . . . NOW! strategy instruction. Not only was the intervention effective, but it was also implemented with a high level of treatment fidelity, indicating that

the teaching procedures are relatively easy to apply. Moreover, teachers and students reported a high level of satisfaction with the intervention goals, procedures, and outcomes.

Before using this strategy, classroom teachers will need to make instructional decisions to modify the intervention to fit their students' needs and their classroom situations. One very important issue for teachers is that of generalization. Although the NOW part of the strategy was specifically designed to promote generalization, students in this study did not easily generalize the strategy to other types of writing. Therefore, teachers will need to find ways to strengthen the NOW part of the learning strategy. Troia (2002) suggested that to promote generalization of a writing strategy, teachers should explicitly model generalized applications of the strategy, emphasize self-regulation, prompt students to use the strategy, and reinforce students when they apply the strategy. Similarly, Stokes and Baer (1977) suggested that teachers "train 'to generalize'" (p. 362). In other words, if generalization is the goal (as is the case with GO 4 IT . . . NOW! strategy instruction), then there should be a reinforcement contingency in place for generalized writing. For example, the teacher might provide corrective feedback and praise for students' generalization paragraphs.

Furthermore, according to Baer (1999), a common mistake in teaching a new skill is not teaching with enough examples to promote generalization. Although the intervention in this study included showing students examples and non-examples of paragraphs, students were not given examples of how to apply the strategy to other kinds of paragraphs. Therefore, classroom teachers should build in examples of how the strategy is applied to other kinds of writing.

Given the recent calls for special education instruction to be more closely aligned with the general education curriculum and the role that self-determination skills appear to play in improving outcomes, it is important to identify interventions that address academic and self-determination skills simultaneously. Integrating written expression skills into instruction designed to promote student involvement in the IEP process may allow teachers to encourage the development of their students' self-determination skills, while helping them work toward general education curriculum goals in language arts. ■

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